APS 3-18-99

(FILE 'USPAT' ENTERED AT 13:09:33 ON 18 MAR 1999) 38988 S (PROMOTER OR TAC OR LAC) L1 L2 33 S DUAL PROMOTER 109 S (DUAL (3A) PROMOTER) OR (PLURALITY (5A) PROMOTER) L3 76063 S VECTOR OR PLASMID L466 S L3 AND L4 1.5 2 S (VECTOR OR PLASMID) AND (RIBOSOME BINDING SITE) AND ((DUA L6 L ( => d bib ab 13 3, 5, 21, 22, 31, 34, 39, 40, 50, 53, 55, 57, 62, 65, 84, 87, 89, 96

US PAT NO:

5,874,242 [IMAGE AVAILABLE]

L3: 3 of 109

DATE ISSUED:

Feb. 23, 1999

TITLE:

Efficient translation in eukaryotic and prokaryotic

systems

INVENTOR:

Kojo A. Mensa-Wilmot, Athens, GA

ASSIGNEE:

University of Georgia Research Foundation, Inc., Athens,

GA (U.S. corp.)

APPL-NO:

08/821,022 Mar. 19, 1997

DATE FILED: ART-UNIT:

166

PRIM-EXMR:

John L. LeGuyader John S. Brusca

ASST-EXMR: LEGAL-REP:

Greenlee, Winner and Sullivan, PC

US PAT NO:

5,874,242 [IMAGE AVAILABLE]

L3: 3 of 109

#### ABSTRACT:

The present disclosure provides sequences and methods for efficient protein synthesis in eukaryotic and prokaryotic host cells.

US PAT NO:

5,866,787 [IMAGE AVAILABLE]

L3: 5 of 109

DATE ISSUED:

Feb. 2, 1999

TITLE:

Transgenic plants co-expressing a functional human 2-5A

system

INVENTOR:

Robert H. Silverman, Shaker Heights, OH

Amitava Mitra, Lincoln, NE

ASSIGNEE:

Cleveland Clinic Foundation, Cleveland, OH (U.S. corp.)

APPL-NO:

08/487,797

DATE FILED:

Jun. 7, 1995

ART-UNIT:

183

PRIM-EXMR:

Elizabeth F. McElwain

LEGAL-REP:

Rothwell, Figg, Ernst & Kurz, PC

US PAT NO:

5,866,787 [IMAGE AVAILABLE]

L3: 5 of 109

# ABSTRACT:

Novel transgenic plants having the ability to express a functional 2-5A system, i.e., a 2-5A synthetase which produces 5'-phosphorylated, 2',5'-linked oligoadenylates (2-5A) in response to double stranded RNA (dsRNA), and a 2-5A-dependent (RNase L), are disclosed. The novel transgenic plants expressing the functional 2-5A system, such as novel transgenic tobacco plants, are immune to and resistant against viral

infection. When the novel transgenic tobacco plants are exposed to three different types of plant viruses, i.e., TMV, TEV and AIMV, such viral exposure leads to necrotic local lesions in such transgenic tobacco plants instead of typical systemic infections.

US PAT NO: 5,767,374 [IMAGE AVAILABLE] L3: 21 of 109

DATE ISSUED: Jun. 16, 1998

TITLE: Plants with modified flowers seeds or embryos

INVENTOR: Willy De Greef, Ghent, Belgium

John Van Emmelo, Sint-Amandsberg, Belgium

Dulce Eleonora De Oliveira, Rio de Janeiro, Brazil

Maria-Helena De Souza, Ghent, Belgium Marc Van Montagu, Brussels, Belgium

ASSIGNEE: Plant Genetic Systems, N.V., Ghent, Belgium (foreign

corp.)

APPL-NO: 08/484,332 DATE FILED: Jun. 7, 1995

ART-UNIT: 183

PRIM-EXMR: David T. Fox

LEGAL-REP: Burns, Doane, Swecker & Mathis, LLP

US PAT NO: 5,767,374 [IMAGE AVAILABLE] L3: 21 of 109

#### ABSTRACT:

A plant, the nuclear genome of which is transformed with a foreign DNA sequence encoding a product which selectively disrupts the metabolism, functioning and/or development of cells of the flowers, particularly one or more of their female organs, or the seeds or the embryos of the plant. The foreign DNA sequence also optionally encodes a marker.

US PAT NO: 5,750,386 [IMAGE AVAILABLE] L3: 22 of 109

DATE ISSUED: May 12, 1998

TITLE: Pathogen-resistant transgenic plants
INVENTOR: Mark A. Conkling, Fuquay-Varina, NC
Charles H. Opperman, Raleigh, NC
Christopher G. Taylor, Raleigh, NC

ASSIGNEE: North Carolina State University, Raleigh, NC (U.S. corp.)

APPL-NO: 08/558,865 DATE FILED: Nov. 15, 1995

ART-UNIT: 189

PRIM-EXMR: Charles C. P. Rories

LEGAL-REP: Myers, Bigel, Sibley & Sajovec, L.L.P.

US PAT NO: 5,750,386 [IMAGE AVAILABLE] L3: 22 of 109

# ABSTRACT:

Recombinant pathogen-resistant plants comprise transformed plant cells, with the transformed plant cells containing a heterologous DNA construct comprising an expression cassette. The construct comprises a promoter, a structural gene positioned downstream from the promoter, and a termination sequence such as the nos terminator positioned downstream from the structural gene. The promoter is one which is activated by a plant pathogen which attacks the plant, such as the RB7 nematode-responsive element. The structural gene encodes a product such as Barnase which is toxic to the plant cells.

US PAT NO: 5,693,508 [IMAGE AVAILABLE] L3: 31 of 109

DATE ISSUED: Dec. 2, 1997

TITLE: Retroviral expression vectors containing

MoMLV/CMV-IE/HIV-TAR chimeric long terminal repeats

INVENTOR: Lung-Ji Chang, 11456, 71 Avenue, Edmonton, Alberta,

Canada, T6G 0A7

08/336,132 APPL-NO: Nov. 8, 1994 DATE FILED:

ART-UNIT: 183

Christine M. Nucker PRIM-EXMR: ASST-EXMR: Jeffrey S. Parkin Medlen & Carroll LEGAL-REP:

L3: 31 of 109 US PAT NO: 5,693,508 [IMAGE AVAILABLE]

#### ABSTRACT:

Novel retroviral vectors were constructed by making modifications to the Moloney murine leukemia virus (MoMLV) long terminal repeat (LTR). A portion of the U3 region of the MoMLV LTR was replaced with a hybrid regulatory element consisting of the human cytomegalovirus immediate-early enhancer/promoter (CMV-IE) together with the human immunodeficiency virus transactivation response element (HIV-TAR). Transfection of chloramphenical acetyl transferase (CAT) reporter constructs into a variety of human cell lines showed that the CMV-IE/HIV-TAR enhancer/promoter chimeric MoMLV LTR exhibited basal expression levels which were 10- to 50-fold higher than those obtained from the wild-type MoMLV LTR enhancer/promoter. Expression from the recombinant LTR was further increased in the presence of the HIV-1 Tat protein. When stably transfected into an amphotropic packaging cell line, the modified retroviral vector containing the chimeric LTR plus an extended packaging signal consistantly gave higher titers of retrovirus than did the parental MoMLV based vector. These novel retroviral vectors provide improved means for the delivery and expression of genes in different cell types.

5,665,578 [IMAGE AVAILABLE] L3: 34 of 109 US PAT NO:

DATE ISSUED: Sep. 9, 1997

Vector and method for achieving high level of expression TITLE:

in eukaryotic cells

Stephen D. Gillies, 145 Gilson Rd., Scituate, MA 02066 INVENTOR:

08/223,381 APPL-NO: DATE FILED: Apr. 5, 1994

ART-UNIT: 185

PRIM-EXMR: Mindy Fleisher ASST-EXMR: Terry A. McKelvey

Testa, Hurwitz & Thibeault LLP LEGAL-REP:

L3: 34 of 109 US PAT NO: 5,665,578 [IMAGE AVAILABLE]

# ABSTRACT:

Disclosed are vectors for achieving high level expression in eucaryotic cells. The vectors include an expressible gene encoding a protein product of interest, an expressible gene encoding a marker protein which permits selection of useful transformants, and an enhancer element, preferably a cellular enhancer element, which functions to increase the level of transcription of genes disposed on its 3' and 5' sides. A blocking element is interposed between the enhancer element and the marker gene which shields the promoter of the marker gene from the transcription-stimulating function of the enhancer, thereby limiting the effect of the enhancer to transcriptions of the DNA encoding the protein product of interest. Use of the vectors permits isolation of viable clones characterized by a very high level of expression of the protein of interest.

L3: 39 of 109 US PAT NO: 5,648,477 [IMAGE AVAILABLE]

DATE ISSUED: Jul. 15, 1997

Genetically engineered plant cells and plants exhibiting TITLE: resistance to glutamine synthetase inhibitors, DNA

fragments and recombinants for use in the production of

said cells and plants

INVENTOR: Jan Leemans, Heusden, Belgium

Johan Botterman, Zwijnaarde, Belgium

Charles Thompson, Grand Lancy/Genege, Switzerland

Rao Mouva, Geneva, Switzerland

ASSIGNEE: Plant Genetic Systems, N.V., Gent, Belgium (foreign corp.)

APPL-NO: 08/477,320 DATE FILED: Jun. 7, 1995

ART-UNIT: 183

PRIM-EXMR: Gary Benzion

LEGAL-REP: Burns, Doane, Swecker & Mathis, LLP

US PAT NO: 5,648,477 [IMAGE AVAILABLE] L3: 39 of 109

#### ABSTRACT:

The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.

It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,646,024 [IMAGE AVAILABLE] L3: 40 of 109

DATE ISSUED: Jul. 8, 1997

TITLE: Genetically engineered plant cells and plants exhibiting

resistance to glutamine synthetase inhibitors, DNA fragments and recombinants for use in the production of

said cells and plants

INVENTOR: Jan Leemans, Heusden, Belgium

Johan Botterman, Zwijnaarde, Belgium Marc De Block, Gentbrugge, Belgium

Charles Thompson, Grand Lancy/Genege, Switzerland

Rao Mouva, Geneva, Switzerland

ASSIGNEE: Plant Genetic Systems, N.V., Ghent, Belgium (foreign

corp.)

APPL-NO: 08/463,241 DATE FILED: Jun. 5, 1995

ART-UNIT: 183

PRIM-EXMR: Gary Benzion

LEGAL-REP: Burns, Doane, Swecker & Swecker LLP

US PAT NO: 5,646,024 [IMAGE AVAILABLE] L3: 40 of 109

# ABSTRACT:

The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.

It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,561,236 [IMAGE AVAILABLE] L3: 50 of 109

DATE ISSUED: Oct. 1, 1996

TITLE: Genetically engineered plant cells and plants exhibiting

resistance to glutamine synthetase inhibitors, DNA fragments and recombinants for use in the production of

said cells and plants

INVENTOR: Jan Leemans, Heusden, Belgium

Johan Botterman, Zwijnaarde, Belgium Marc De Block, Gentbrugge, Belgium

Charles Thompson, Grand Lancy/Genege, Switzerland

Rao Mouva, Genev, Switzerland

ASSIGNEE: Plant Genetic Systems, Belgium (foreign corp.)

Biogen, Inc., Cambridge, MA (U.S. corp.)

APPL-NO: 07/525,300 DATE FILED: May 17, 1990

ART-UNIT: 183

PRIM-EXMR: Gary Benzion

LEGAL-REP: Burns, Doane, Swecker & Mathis

US PAT NO: 5,561,236 [IMAGE AVAILABLE] L3: 50 of 109

#### ABSTRACT:

INVENTOR:

The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.

It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,547,862 [IMAGE AVAILABLE] L3: 53 of 109

DATE ISSUED: Aug. 20, 1996

TITLE: Vectors containing multiple promoters in the same

orientation ·

James Meador, Austin, TX
Hoyt E. McElroy, Austin, TX
Michelle L. Herrmann, Austin, TX

Matthew Winkler, Austin, TX

ASSIGNEE: Ambion Inc., Austin, TX (U.S. corp.)

APPL-NO: 08/099,867 DATE FILED: Jul. 29, 1993

ART-UNIT: 185

PRIM-EXMR: Mindy Fleisher ASST-EXMR: Philip W. Carter

LEGAL-REP: Arnold, White & Durkee

US PAT NO: 5,547,862 [IMAGE AVAILABLE] L3: 53 of 109

#### ABSTRACT:

Disclosed are novel DNA segments, vectors and plasmids containing multiple promoters for use with various polymerases in order to transcribe cloned DNA into RNA. A preferred vector, termed pTRIPLEscript.TM., is described which contains the SP6, T7, and T3 phage promoters in the same orientation and on the same side of a multiple cloning site. This vector efficiently synthesizes in vitro transcripts from all three promoters under conditions of both limiting and saturating nucleotide concentrations. This vector also promotes transcription without crosstalk, i.e., without nonspecific initiation at inappropriate promoters.

US PAT NO: 5,512,483 [IMAGE AVAILABLE] L3: 55 of 109

DATE ISSUED: Apr. 30, 1996

TITLE: Expression vectors responsive to steroid hormones

INVENTOR: Sylvie Mader, Montreal, Canada John H. White, Montreal, Canada

ASSIGNEE: McGill University, Quebec, Canada (foreign corp.)

APPL-NO: 08/066,397 DATE FILED: May 21, 1993

ART-UNIT: 182

PRIM-EXMR: Stephen G. Walsh

ASST-EXMR: John D. Ulm LEGAL-REP: Lyon & Lyon

US PAT NO: 5,512,483 [IMAGE AVAILABLE] L3: 55 of 109

ABSTRACT:

Expression vector adapted for expression of cloned genes in an animal cell comprising a steroid responsive promoter, the promoter consisting essentially of a plurality of glucocorticoid response elements (GREs), a TATA box, and an initiator element containing a transcriptional initiator site located from 20 to 50 bases from the TATA box, the promoter lacking upstream elements which bind nuclear factor I, and the vector further comprising a restriction endonuclease site downstream from the promoter for insertion of DNA to be expressed from the promoter, wherein the DNA is expressed from the vector in an animal cell.

L3: 57 of 109 US PAT NO: 5,445,954 [IMAGE AVAILABLE]

DATE ISSUED: Aug. 29, 1995

System for automatic gene amplification and expression TITLE:

INVENTOR: Ru C. Huang, Baltimore, MD Paul E. Giza, Baltimore, MD

The Johns Hopkins University, Baltimore, MD (U.S. corp.) ASSIGNEE:

08/016,188 APPL-NO: DATE FILED: Feb. 11, 1993

ART-UNIT: 184

ASST-EXMR: LEGAL-REP: PRIM-EXMR: Jacqueline Stone J. Leguyader

Cushman Darby & Cushman

L3: 57 of 109 US PAT NO: 5,445,954 [IMAGE AVAILABLE]

#### ABSTRACT:

Discoveries are disclosed that show that certain mutations in different parts of the mechanism for regulation of independently replicating element replication can be combined in one expression independently replicating element to produce a runaway-replication phenotype that is suppressible by a diffusible factor from another independently replicating element co-resident in the host cell. According to the present invention, an expression independently replicating element combining known inducible promoters with this runaway-replication phenotype is used in combination with a independently replicating element that suppresses this runaway phenotype to establish a gene expression system that provides both controllable gene amplification and controllable induction of gene expression without the use of chemical inducers or temperature shifts. This expression system produces high yields of proteins in readily isolatable forms.

5,391,724 [IMAGE AVAILABLE] L3: 62 of 109 US PAT NO:

DATE ISSUED: Feb. 21, 1995

TITLE: Pinosylvine synthase genes

Helmut Kindl, Marburg, Federal Republic of Germany INVENTOR:

Rudiger Hain, Langenfeld, Federal Republic of Germany Hans-Jorg Reif, Cologne, Federal Republic of Germany Klaus Stenzel, Duesseldorf, Federal Republic of Germany Jurgen Thomzik, Langenfeld, Federal Republic of Germany Bayer Aktiengesellschaft, Leverkusen, Federal Republic of

ASSIGNEE: Germany (foreign corp.)

07/941,469 APPL-NO: Sep. 8, 1992 DATE FILED:

ART-UNIT: 182

PRIM-EXMR: Che S. Chereskin ASST-EXMR:

Elizabeth C. Kemmerer LEGAL-REP: Sprung Horn Kramer & Woods

US PAT NO: 5,391,724 [IMAGE AVAILABLE] L3: 62 of 109

# ABSTRACT:

New genes for pinosylvine synthase ("pinosylvine synthase genes") have

been found, which can be incorporated into the hereditary factors (the genome) of plants that generate no pinosylvine or only inadequate pinosylvine, whereby an increased resistance of these plants to pests can be brought about. Also disclosed are vectors, host organisms, and plants transformed with the new pinosylvine synthase genes.

US PAT NO: 5,349,122 [IMAGE AVAILABLE] L3: 65 of 109

DATE ISSUED: Sep. 20, 1994

TITLE: Use of lysozyme gene structures in plants to increase

resistance

INVENTOR: Rudiger Hain, Langenfeld, Federal Republic of Germany

Klaus Stenzel, Duesseldorf, Federal Republic of Germany

ASSIGNEE: Bayer Aktiengesellschaft, Leverkusen, Federal Republic of

Germany (foreign corp.)

APPL-NO: 07/555,557 DATE FILED: Jul. 19, 1990

ART-UNIT: 184

PRIM-EXMR: David T. Fox

LEGAL-REP: Sprung Horn Kramer & Woods

US PAT NO: 5,349,122 [IMAGE AVAILABLE] L3: 65 of 109

#### ABSTRACT:

A method for increasing the resistance of a plant to fungi and animal pests comprising introducing into the genome of the plant one or more lysozyme gene structures which express lysozyme, the lysozyme gene structure comprises a chimeric gene fusion of the TR promoter, the signal peptide sequence of barley alpha-amylase and one or more lysozyme genes.

US PAT NO: 5,017,488 [IMAGE AVAILABLE] L3: 84 of 109

DATE ISSUED: May 21, 1991

TITLE: Highly efficient dual T7/T3 promoter vector PJKF16

and dual SP6/T3 promoter vector PJFK15

INVENTOR: William T. McAllister, Metuchen, NJ

John F. Klement, Bethesda, MD

ASSIGNEE: University of Medicine and Dentistry of New Jersey,

Newark, NJ (U.S. corp.)

APPL-NO: 06/920,327 DATE FILED: Oct. 17, 1986

ART-UNIT: 185

PRIM-EXMR: Richard A. Schwartz

ASST-EXMR: S. L. Nolan LEGAL-REP: Weiser & Stapler

US PAT NO: 5,017,488 [IMAGE AVAILABLE] L3: 84 of 109

#### ABSTRACT:

A dual promoter cassette which has at one end a promoter for T3 RNA polymerase which contains a downstream sequence identical to a naturally occurring T3 promoter sequence and on the other end, a promoter for a phage DNA polymerase other than the T3 RNA polymerase. The recombinant DNA plasmid which includes the promoter. The plasmid is capable of highly efficient transcription of RNA with low concentrations of ribonucleoside triphosphates.

US PAT NO: 4,966,841 [IMAGE AVAILABLE] L3: 87 of 109

DATE ISSUED: Oct. 30, 1990

TITLE: Enhanced vector production and expression of recombinant

DNA products

INVENTOR: Donald E. Riley, Seattle, WA

ASSIGNEE: The Board of Regents of the University of Washington,

Seattle, WA (U.S. corp.)

APPL-NO: 07/053,390 DATE FILED: May 22, 1987

ART-UNIT: 184

PRIM-EXMR: Charles F. Warren ASST-EXMR: Christopher S. F. Low

LEGAL-REP: Christensen, O'Connor, Johnson & Kindness

US PAT NO: 4,966,841 [IMAGE AVAILABLE] L3: 87 of 109

#### ABSTRACT:

A 2,356 base pair fragment isolated from the human X chromosome, designated as Xrep, has been found to exert a positive effect on plasmid replication in both prokaryotic and eukaryotic cells. The Xrep, in addition, has been found to increase transcription of DNA, thus leading to increased expression of desired protein products. The Xrep segment has been fully sequenced and portions thereof have been found to exhibit homologies with enhancer sequences contained in various viruses.

US PAT NO: 4,946,790 [IMAGE AVAILABLE] L3: 89 of 109

DATE ISSUED: Aug. 7, 1990

TITLE: Recombinant plasmid for the expression of L-phenylalanine

ammonia-lyase and transformed strain carrying same

INVENTOR: Nobuhiro Fukuhara, Ohmuta, Japan

Setsuo Yoshino, Yokohama, Japan Satori Sone, Yokohama, Japan

Yoshiyuki Nakajima, Yokohama, Japan Nobuyoshi Makiguchi, Fujisawa, Japan

ASSIGNEE: Mitsui Toatsu Chemicals, Inc., Tokyo, Japan (foreign

corp.)

APPL-NO: 07/151,234 DATE FILED: Feb. 1, 1988

ART-UNIT: 188

PRIM-EXMR: Elizabeth C. Weimar ASST-EXMR: Marian C. Knode LEGAL-REP: Nixon & Vanderhye

US PAT NO: 4,946,790 [IMAGE AVAILABLE] L3: 89 of 109

#### ABSTRACT:

A recombinant plasmid for the expression of phenylalanine ammonia-lyase (PAL) is constructed by incorporating therein a combined promoter comprising (a) the fusion promoter (the tac promoter) composed of the trp promoter minus 35 region and the lac UV-5 promoter minus 10 region and (b) the P.sub.L promoter of the lambda phage, the tac promoter and the P.sub.L promoter being connected so as to have the same directional property. This recombinant plasmid permits more efficient expression of PAL in Escherichia coli.

US PAT NO: 4,634,678 [IMAGE AVAILABLE] L3: 96 of 109

DATE ISSUED: Jan. 6, 1987

TITLE: Plasmid cloning and expression vectors for use in

microorganisms

INVENTOR: John S. Salstrom, Edina, MN
Dawn Newman, Hopkins, MN

Douglas F. Harbrecht, Hopkins, MN

Shiu-Lok Hu, Minnetonka, MN

ASSIGNEE: Molecular Genetics Research and Development Limited

Partnership, Minnetonka, MN (U.S. corp.)

APPL-NO: 06/449,187 DATE FILED: Dec. 13, 1982

ART-UNIT: 127

PRIM-EXMR: James Martinell LEGAL-REP: Pennie & Edmonds

L3: 96 of 109

US PAT NO: 4,634,678 [IMAGE AVAILABLE]

ABSTRACT:

DNA cloning and expression vectors capable of replication in a microbial host comprising from upstream to downstream (a) at least one promoter; (b) a translation start codon; (c) a cloning segment which provides a means for inserting nucleic acid sequences and (d) a sequence coding for a detectable gene product, out of translational phase with the translation start codon but capable of being readjusted to the translational phase of said start codon by insertion into the cloning segment of nucleic acid sequences containing the proper number of nucleotides for readjustment, said gene product providing a means for detecting expression of inserted nucleic acid sequences.

5,741,673 [IMAGE AVAILABLE] US PAT NO: L6: 1 of 2

DATE ISSUED: Apr. 21, 1998

Nucleic acid encoding a novel homeobox factor which TITLE:

stimulates insulin expression in pancreatic islet cells

INVENTOR: Marc R. Montminy, Encinitas, CA

James N. Leonard, San Diego, CA

Research Development Foundation, Carson City, NV (U.S. ASSIGNEE:

corp.)

08/583,672 APPL-NO: DATE FILED: Jan. 5, 1996

182 ART-UNIT: John Ulm PRIM-EXMR:

Sally P. Teng ASST-EXMR:

LEGAL-REP: Benjamin Aaron Adler

L6: 1 of 2 US PAT NO: 5,741,673 [IMAGE AVAILABLE]

#### ABSTRACT:

In accordance with the present invention, there are provided novel homeobox-type pancreatic islet transcription factor proteins useful to bind to tissue-specific elements (TSEs) within a pancreatic islet hormone gene promoter and modulate hormone gene expression both in vivo and in vitro. Nucleic acid sequences encoding such transcription factor proteins and assays employing same are also disclosed. The invention transcription factor proteins can be employed in a variety of ways, for example, to modulate RNA transcription, for production of antibodies thereto, in therapeutic compositions and methods employing such proteins and/or antibodies.

L6: 2 of 2 US PAT NO: 5,702,931 [IMAGE AVAILABLE]

DATE ISSUED: Dec. 30, 1997

Mutagenesis methods and compositions TITLE: INVENTOR: William H. Andrews, San Mateo, CA Michael J. Morser, San Francisco, CA

Laura R. Vilander, Richmond, CA

Berlex Laboratories, Inc., Cedar Knolls, NJ (U.S. corp.) ASSIGNEE:

APPL-NO: 08/170,290 Dec. 28, 1993 DATE FILED:

ART-UNIT: 185

PRIM-EXMR: Nancy Degen

Wendy L. Washtien LEGAL-REP:

L6: 2 of 2 US PAT NO: 5,702,931 [IMAGE AVAILABLE]

# ABSTRACT:

Methods and reagents for oligonucleotide-directed mutagenesis of a target nucleic acid are provided. In these methods a mutagenic oligonucleotide introduces a desired mutation at one site and, at a second site, introduces or eliminates a restriction site, allowing one to screen for the desired mutation by restriction analysis. Also provided are vectors and kits for performing such mutagenesis methods.

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